

# REGULATORY DOCKET FILE COPY

*Southern California Edison Company*

P. O. BOX 800  
2244 WALNUT GROVE AVENUE  
ROSEMEAD, CALIFORNIA 91770

K. P. BASKIN  
MANAGER, GENERATION ENGINEERING

December 1, 1978

TELEPHONE  
213-572-1401

Director, Office of Nuclear Reactor Regulation  
Attn: Mr. D. L. Ziemann, Chief  
Operating Reactors Branch #2  
Division of Operating Reactors  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Gentlemen:

Subject: Docket No. 50-206, Provisional Operating License No. DPR-13  
Fire Protection Program Review  
San Onofre Nuclear Generating Station  
Unit 1

As indicated in our letter of November 28, 1978, we committed to respond to the NRC Staff Positions PF-27A, "Cable Spreading Area", and PF-51, "Containment", which were forwarded to us as Enclosure 2 to your letter of November 17, 1978. The following response is supplied in order to satisfy that commitment.

PF-27A Cable Spreading Area

Staff Position:

Passive measures should be taken to prevent a major electrical cable fire in the cable spreading areas. These measures should consist of the application of a flame retardant coating to electrical cables or the combination of fire stops in cable trays and the use of suitable fire barriers to prevent fire propagation between adjacent cable trays.

Response:

The fire zone of concern is the 4160V switchgear room. A fire in this area results in considerable difficulties with respect to the capability of achieving a safe shutdown of the plant. For this reason, a substantial effort has been directed at providing a viable means of detecting and suppressing a fire in this area in order to limit the associated fire damage. The results of this effort have been the proposed final modifications identified in our letter of October 18, 1978, which is included as Enclosure 1 of this letter.

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Furthermore, in the event that a fire in this area results in the total loss of the 4160V electrical systems (and associated equipment), it is our intent to provide a means to ensure safe shutdown of the station in a manner which considers the criteria identified in NRC staff position PF-50A "Shutdown Capability", which is included as Enclosure 2 of this letter.

Based on the combination of the above identified fire protection measures with the capability for safe shutdown of the station independent of any fire, adequate measures exist to satisfy the expressed NRC staff concerns. Therefore, passive measures such as a flame retardant coating and/or fire stops for electrical cables in the 4160V switchgear room are not needed to ensure safe shutdown of the station.

PF-51 Containment

Staff Position:

Fire stops should be provided in cable trays to prevent fire propagation between redundant divisions of cable trays (inside containment).

Response:

Passive measures as indicated in this staff position will be considered as part of the Systematic Evaluation Program in the same manner as the other interfacing and related fire protection modifications which have been deferred as agreed upon at the NRC/SCE meeting of August 29, 1978.

If you have any questions or desire additional information, please contact me.

Very truly yours,

*W.P. Boston*

Enclosures

Enclosure 1

Final Modifications to 4160-volt Switchgear Room (Fire Zone 8)

1. Automatic Halon System (Double Shot)
2. Fire Detectors
3. Fire/Smoke Dampers
4. Drainage Modifications
5. Hose Reel at Southeast Door
6. Penetration Seals for Leak Tightness\*
7. Spray Splash Shields for Switchgear

Note:

The above described modifications are in addition to the interim modifications which have been installed during the last refueling outage. These modifications include a 3-hour self-closing fire door at the southwest door and the addition of a sealing around the southeast door.

\*Seals will have a fire rating of 3 hours.

Enclosure 2  
Fire Protection Program Review  
NRC Staff Position on Safe Shutdown

PF-50A Shutdown Capability

Staff Position:

An alternate means should be provided to ensure safe shutdown with either onsite or offsite power independent of systems which could be damaged by a fire in the 4160 volt switchgear room. It is recommended that consideration be given to a dedicated shutdown system which could resolve this concern and any concerns resulting from the Systematic Evaluation Program. The alternate shutdown means should meet the following criterion:

1. Following any fire, the plant should be capable of achieving hot shutdown conditions using equipment and systems that are free of fire damage.
2. The plant should be capable of maintaining hot shutdown conditions for an extended time period significantly longer than 72 hours. This capability should include the use of a charging pump and be accomplished from a minimum of remote locations.\*
3. Fire damage to systems necessary to achieve and maintain cold shutdown conditions should be limited so that repairs can be made and cold shutdown conditions achieved within 72 hours.
4. Repair procedures for cold shutdown systems should be prepared and material needed for such repairs should be on the site.
5. The hot shutdown condition must be achievable with power from the offsite power system, and upon its loss, with power from the onsite power system. A dedicated power supply may be substituted for the onsite power system.
6. The power needed to achieve the cold shutdown condition may be obtained from any one of the offsite power, onsite power, or dedicated power systems.
7. The adequacy of these minimum systems should be verified by a thorough evaluation of:
  - a. Systems required for hot shutdown;
  - b. Systems required for cold shutdown;
  - c. Fire damage to power distribution systems; and
  - d. Interactions caused by fire damage to power and water supply systems and to supporting systems.

\*Underlined portion represents an SCE commitment as described in letter dated October 18, 1978.